REMARKS

This Amendment is being filed in response to the Office Action dated February 21, 2007. In view of these amendments and remarks this application should be allowed and the case passed to issue. No new matter is introduced by this amendment. Support for the amendment to claims 1 and 18 is found in originally filed claims 2, 7, and 8; the specification at page 7, lines 27-32; and Figs. 4A and 4B. Claims 15-17 are amended to correct informalities. Claims 3, 4, and 9 are amended to maintain proper dependency.

Claims 1, 3-6, and 9-19 are pending in this application. Claims 3-6, 9-11, and 19 are withdrawn pursuant to a restriction requirement. Claims 1, 7, 8, and 12-18 are rejected. Claims 1, 3, 4, 9, and 15-18 are amended in this response. Claims 2, 7, and 8 are canceled in this response.

Restriction

The restriction requirement is traversed because, contrary to the Examiner's assertion, claims 1, 3-5, 9, 10, and 12-19 are readable on Species 1-b and claims 1, 3, and 12-19 are generic to all the species. Reconsideration of the restriction requirement is respectfully requested.

Claim Objections

Claims 16 and 17 were objected to as failing to further limit the subject matter of a previous claim. This objection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claims 16 and 17 have been amended to further clarify that they limit the subject matter of claims 1 and 15, respectively.

Claim Rejections Under 35 U.S.C. § 112

Claim 15 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

Claim 15 has been amended to correct the asserted informality.

Claim Rejections Under 35 U.S.C. § 102

Claims 1, 2, 13, and 14-18 were rejected under 35 U.S.C. § 102(b) as being anticipated by Hiroi (JP 11-307124). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the present invention, as claimed, and the cited prior art.

An aspect of the invention, per claim 1, is a polymer battery comprising a positive electrode active material layer, a negative electrode active material layer placed in opposition to the positive electrode active material layer, and a polymer electrolyte layer disposed between the positive electrode active material layer and the negative electrode active material layer. Distance defining members are included in the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin to define a distance between the positive electrode active material layer and the negative electrode active material layer. The metallic wires are disposed in parallel to one another.

Another aspect of the invention, per claim 18, is a polymer battery comprising a positive electrode active material layer, a negative electrode active material layer placed in opposition to the positive electrode active material layer, and a polymer electrolyte layer disposed between the positive electrode active material layer and the negative electrode active material layer. Defining means are included in the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin for defining a distance between the positive electrode active

material layer and the negative electrode active material layer. The metallic wires are disposed in parallel to one another.

Hiroi teaches a secondary battery having spacer particles 4 in an ion conductive layer 3 including a gel or polymer electrolyte.

Hiroi does not anticipate the claimed polymer battery because Hiroi does not disclose distance defining members included in the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin to define a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 1; and defining means, included in the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin, for defining a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 18.

The claimed structure allows polymer electrolyte batteries to be formed with thin polymer electrolyte layers wires having sufficient mechanical strength.

The factual determination of lack of novelty under 35 U.S.C. § 102 requires the disclosure in a single reference of each element of a claimed invention. *Helifix Ltd. v. Blok-Lok Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994); *Hoover Group, Inc. v. Custom Metalcraft, Inc.*, 66 F.3d 399, 36 USPQ2d 1101 (Fed. Cir. 1995); *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992); *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051 (Fed. Cir. 1987). Because Hiroi does not disclose distance defining members included in

the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin to define a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 1; and defining means, included in the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin, for defining a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 18, Hiroi does not anticipate claims 1 and 18.

Applicants further submit that Hiroi does not suggest the claimed polymer batteries.

Claim Rejections Under 35 U.S.C. § 103

Claims 7 and 8 were rejected under 35 U.S.C. § 103(a) as being anticipated by Hiroi in view of Koyanagi et al. (US 6,580,026). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner acknowledged that Hiroi does not disclose a resin-coated wire as the spacer. The Examiner maintained that Koyanagi et al. teach a cell separator containing rod-shaped particles and resin-coated particles. The Examiner concluded it would have been obvious to modify the Hiroi particles to be resin-coated, rod-shaped particles for the benefit of immobilizing the spacer material.

Koyanagi et al. disclose a photovoltaic having spacer particles 27 interposed between a semiconductor film 22 and an electrode layer 23. The spacer particles 27 are used to make the inter-electrode gap uniform.

Koyanagi et al., however, do not cure the deficiencies of Hiroi because Koyanagi et al. do not suggest distance defining members included in the polymer electrolyte layer as metallic

wires whose surfaces are respectively coated with resin to define a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 1.

Claim 12 was rejected under 35 U.S.C. § 103(a) as being anticipated by Hiroi in view of James et al. (US 6,451,485). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested.

The Examiner acknowledged that Hiroi does not disclose a plurality of bipolar electrodes. The Examiner maintained that James et al. teach a bipolar battery. The Examiner concluded it would have been obvious to modify the Hiroi battery to be a bipolar battery in order to reduce the number of parts in the battery to establish electrical contact.

James et al. do not cure the deficiencies of Hiroi because James et al. do not suggest distance defining members included in the polymer electrolyte layer as metallic wires whose surfaces are respectively coated with resin to define a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 1.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge readily available to one of ordinary skill in the art. *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). There is no suggestion in Kyonnagi et al. or James et al. to modify the battery of Hiroi et al. to provide a polymer battery comprising distance defining members included in the polymer electrolyte layer

as metallic wires whose surfaces are respectively coated with resin to define a distance between the positive electrode active material layer and the negative electrode active material layer, wherein the metallic wires are disposed in parallel to one another, as required by claim 1.

The only teaching of the claimed polymer batteries is found in Applicants' disclosure. However, the teaching or suggestion to make a claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The dependent claims are allowable for at least the same reasons as the respective independent claims from which they depend and further distinguish the claimed invention.

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,
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